Species Report PSG 213: *Malacomorpha jamaicana* (Redtenbacher, 1906)

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Abstract

Malacomorpha jamaicana (Redtenbacher, 1906) came into culture within the PSG in 1999. Descriptions and illustrations of the adults, nymphs and eggs are provided as well as information on rearing and defence mechanisms.

Key words

Phasmida, *Malacomorpha jamaicana*, Pseudophasmatinae, rearing, defence, Jamaica.

Taxonomy

Malacomorpha jamaicana (Redtenbacher, 1906), originally described as *Anisomorpha jamaicana*, and recently transferred to *Malacomorpha* by Zompro, belongs to the subfamily Pseudophasmatinae (order Phasmida, suborder Areolatae, family Pseudophasmatidae). The syntype series (from Jamaica, collected by Burr) consists of three females and one male, housed in the Naturhistorisches Museum Wien, and the Institut Royal des Sciences Naturelles de Belgique, Brussels respectively (P. Brock, pers. comm.).

Culture History

The founder stock consisted of two adult mating pairs and a small number of nymphs collected by Tony James near Portland, Jamaica, in March 1999 (T. James, pers. comm.). Due to good rearing success, the species is now becoming common within the Phasmid Study Group.

Distribution

Malacomorpha jamaicana is endemic to Jamaica (P. Brock, pers. comm.).

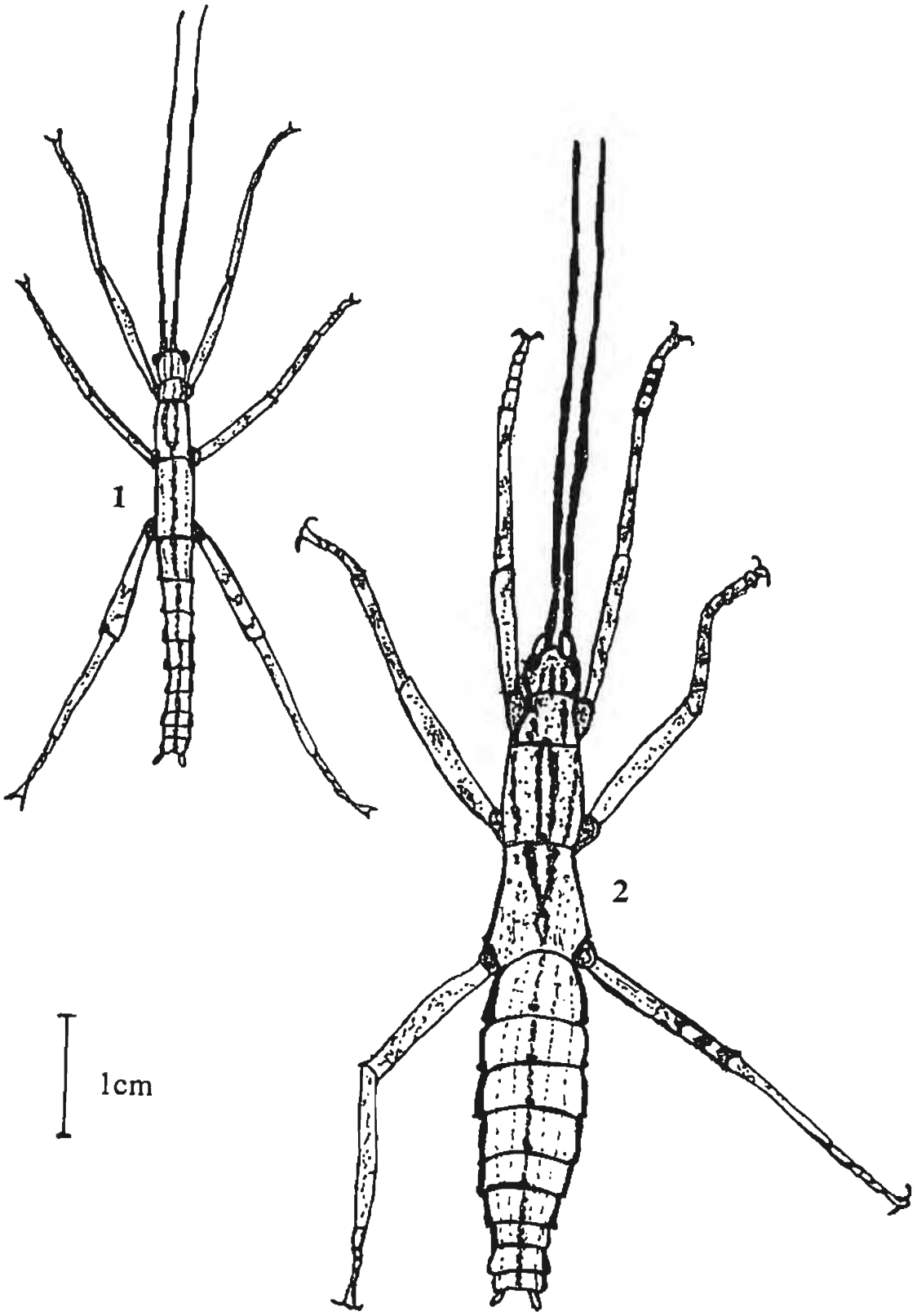
Descriptions

All sizes in this section represent the mean measurements of three individuals.

The adult male (Fig. 1)

The adult male reaches a length of 36mm from the front of the head to the tip of the abdomen. The type specimen measures 32mm (Redtenbacher, 1906: 94). Seen from above, it reaches a width of 3mm at its widest point. The antennae measure 30mm when intact, but are frequently broken off. The front legs are shorter than the antennae (reaching 21mm), the middle legs are short (only reaching 16mm), whereas the hind legs reach 23mm. There are two short cerci (< 1mm) at the tip of the abdomen.

The coloration of the sexes is similar. The adult male is a dull brown with an intricate pattern of fine, lighter and darker brown, longitudinal stripes. There is a wider dark brown to black stripe dorsally along the midline spanning all ten abdominal segments. It continues on to the metathorax, where it separates into two fine parallel lines extending forward to the front end of the mesothorax. The eyes protrude slightly and are brown with some lighter lines across them. Behind each eye, a lighter band extends back along the head to the front of the prothorax. The antennae show some light and dark banding. The legs also have some banding and mottling. An interesting feature is the light coloured V-shaped mark that is visible on each femur when seen from the front. This mark is particularly well developed on the front and mid femora, and is also present in the female. The coxae are large and well developed, making the insect's body look wider than it actually is. At the front corners of the prothorax, the openings of the secretory glands are visible as raised circular areas.



Figures 1 & 2. *Malacomorpha jamaicana*. **1.** Male; **2.** Female.

The adult female (Fig. 2)

The adult female is considerably larger than the male, reaching a length of 58mm and a width of up to 8mm when egg laying. Interestingly, the mean length of the type specimens is given as only 49.5mm (Redtenbacher, 1906: 94). The antennae reach 40mm and are usually intact. The front legs are shorter than the antennae (30mm), the middle legs are the shortest (24mm) and hind legs the longest (32mm). The female also possesses two short cerci (< 1mm) on the tip of the abdomen.

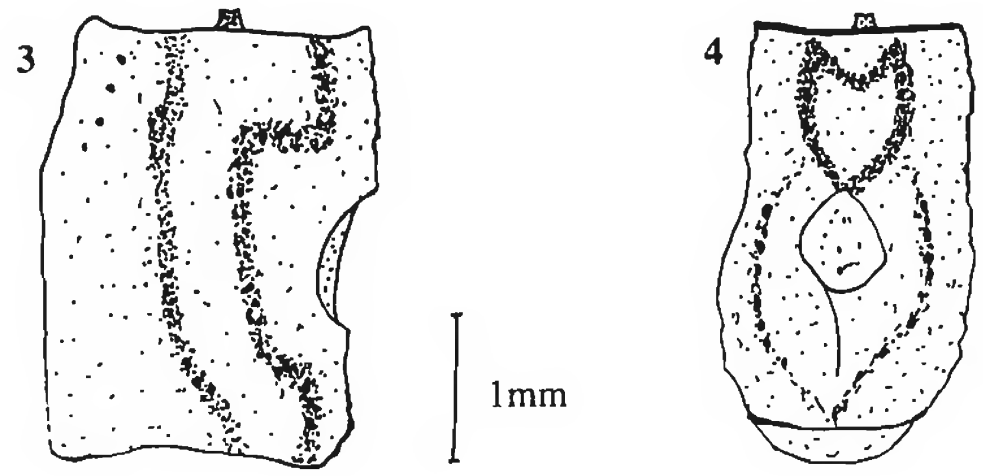
Although the coloration of the adult female is similar to the male, she tends to be lighter. There are small light markings on the rear corners of each abdominal segment. Dorsally in the centre of each abdominal segment, towards its hind margin, there is a small tubercle with a light coloured tip. On each side of the metathorax there is a light coloured oval area with a rugged edge. The banding and striping is essentially the same as described for the adult male. Again, the coxae are large and the openings of the prothoracic glands are clearly visible.

Nymphs

Newly hatched nymphs are uniformly dark brown in colour. They measure 9mm from the front of the head to the tip of the abdomen and are 1mm wide. The antennae reach 5mm. The front, middle and hind legs measure 9, 7 and 8mm respectively. From the second moult, lighter brown patches start to develop. Hatching seems to take place exclusively at night.

Eggs (Figs. 3 & 4)

The eggs are roughly cylindrical measuring approximately height 3mm, length 2mm, width 1.5mm. Their colour ranges from greyish green to greyish brown. The surface is rough with more or less well developed granules forming a pattern in places. The contents of the eggs are a reddish purple.



Figures 3 & 4. Egg of *Malacomorpha jamaicana*, **3.** Lateral view; **4.** Dorsal view.

Defensive behaviour

Malacomorpha jamaicana is capable of producing a powerful defensive secretion from a pair of prothoracic glands. This milky secretion can be sprayed as a fine (nearly invisible) mist and causes strong irritation of the eyes and nasal mucosa up to one metre away from the insect. The secretion is so strong that it proves noticeable from a nymph's first moult. In one instance, where the secretion was not washed off the skin, blistering occurred. *Malacomorpha jamaicana* is considered more potent and more likely to spray than members of the related genus *Anisomorpha* by some, less so by others (I. Abercrombie, pers. comm., T. James, pers. comm.). The author has found the species highly irritable and the spray extremely potent.

If handling becomes necessary, it has been found easiest to provoke an 'all-out attack' on a rubber gloved hand by quickly placing it over and around the insect's thorax, thereby confining the spray, which can then easily be wiped off the glove. It seems that, for at least one hour afterwards, the insect is unable to spray again and can be handled fairly safely.

If the spray fails to deter a predator, or a well meaning keeper, *A. jamaicana* will try to escape by running away very fast for quite some distance before freezing. It seems to prefer a dark background for this immobility response.

In cases of minor disturbance, slight swaying motions, similar to those found in *Carausius morosus* (Sinéty), have been observed.

Rearing

A hatch rate of 100% was achieved by placing the eggs in a ventilated plastic box lined with tissue paper and spraying the lid twice weekly with lukewarm water. During incubation, the box was maintained at room temperature (20-25°C). Eggs took between four and six months to hatch.

The nymphs accepted privet *(Ligustrum* sp.) readily and reached adulthood within four to five months.

Adult males appear to have a shorter lifespan than females, with few reaching an age of more than six months (females have been recorded to live up to eight months). On average, females lay around 15 eggs per week, which are dropped to the bottom of the cage. Males tend to associate themselves with a female when adult by sitting on her back, but this association does not seem to be lifelong as in *Anisomorpha monstrosa* Hebard (Hoskisson, 2001).

While actually mating, it seems to be very difficult for the male to detach itself from the female when disturbed. Males were observed being dragged along behind the female as she was trying to escape. One should therefore avoid disturbing mating pairs wherever possible.

The fact that the majority of males show severely shortened antennae gives rise to the question whether this may be the result of fights between rival males, one attempting to dislodge the other from a female's back.

All stages seem to appreciate reasonably high humidity, such as in a propagator. If they are kept in airier cages, the food plants should be sprayed regularly. Room temperature seems adequate for successful development of nymphs and maintenance of adults. *Malacomorpha jamaicana* does not appear to like being exposed to a heat source, such as a lamp, generally causing them to move away. Light alone does not result in such a response.

Both nymphs and adults are gregarious and gather together in tight bundles, sometimes several insects thick, during the day.

Unlike the majority of stick insects, they produce fairly sticky droppings, so lining the cage with paper will facilitate the cleaning process.

Overall, this is a straightforward species to keep and rear with very good hatch rates and low mortality of nymphs. Due to its defensive spray, however, it can not be recommended in those cases where children could come into contact with it or where the rearer is prone to asthma or allergies.

Acknowledgments

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References

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